

## **ABSTRACT**

The present invention provides compositions and methods for the detection and characterization of mutations associated with cystic fibrosis. More particularly, the present invention provides compositions, methods and kits for using invasive cleavage  
5 structure assays (e.g. the INVADER assay) to screen nucleic acid samples, *e.g.*, from patients, for the presence of any one of a collection of mutations in the CFTR gene associated with cystic fibrosis. The present invention also provides compositions, methods and kits for screening sets of CFTR alleles in a single reaction container.